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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,322	12/13/2001	Shankara B. Reddy	0391999529-0	6103

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EXAMINER

NASSER, ROBERT L

ART UNIT PAPER NUMBER

3736

DATE MAILED: 05/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,322

Applicant(s)

REDDY ET AL.

Examiner

Robert L. Nasser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,2, 5, 7, 11, 13, 17, 23, 25, 27, 31, 33, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Groth et al 5,690,103. Groth performs 3 different tests for 3 different chemical markers, provides an indicator from each test, combines the indicator sin a fuzzy logic engine, to provide an indication of whether AMI is present. If Ami is not present, the system further determines the risk of future occurrence (see column 3, lines 15-16). The tests are biochemical.

Claims 1, 5, 6, 17, 23, 25, 26, 38, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Starobin 6,361,503. Starobin takes two different measurements of RR intervals, one during increasing heart rate and one during decreasing heart rate, to produce an indicator for each test, combines the indicators and determines a risk of future occurrence of cardiac syndromes from the tests (see column 12, lines 23-50).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-8, 11-14, 17, 23, 25-28, 31-34, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groth et al 6,443,889 in view of Groth et al

5,690,103. Groth et al '889 teaches a system in figure 3a that detects ekg data, patient history data, and biomarker data, provides an indicator of each, and combines the indicators in an overall classification of cardiac syndromes. It states in the background section that if a finding of non-ami is made, then it is useful to determine MMD, which provides an indication of the risk of future cardiac syndromes. It does not actually state that it determines the risk. However, Groth '103 shows a similar system for diagnosing AMI, which then provides an indication of the future risk based on the MMD (see column 3, lines 12-15). From this teaching, it would have been obvious to modify Groth et al to assess the risk of AMI, in order to provide the physician with a more complete picture of the patient's health.

Claims 9, 10, 15, 16, 29, 30, 35, and 36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Groth et al 6,443,889 in view of Groth et al 5,690,103, as applied to claims 1, 2, 5-8, 11-14, 17, 23, 25-28, 31-34, 38, and 39 above, further in view of Campell. With respect to claims 9, 10, 15, 16, 29, 30, 35, and 36, Groth et al does not have an imaging device. Campbell however teaches in column 14, lines 41-55, that imaging data may be used in combination with the data measured by Groth et al to assist in assessing medical conditions. Therefore, it would have been obvious to modify the above combination to use an imaging device, to provide improved data as to the patient's condition. The exact type of imaging device would have been obvious to one skilled in the art, given that applicant has not stated that the selection of a specific imaging device solves a given problem or is for a particular purpose.

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Claims 3, 4, 18-22, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groth et al 6,443,889 in view of Groth et al 5,690,103, as applied to claims 1, 2, 5-8, 11-14, 17, 23, 25-28, 31-34, 38, and 39 above, further in view of Anderson et al and Lachejewski. The above combination uses a neural network to analyze the data. Anderson et al teaches the equivalence of neural networks and fuzzy logic systems for analyzing systems like that of Groth. Hence, it would have been obvious to modify Groth to use a fuzzy logic system, as it is merely the substitution of one known equivalent logic for another. In addition, Lachejewski teaches in column 9, lines 4-47, a fuzzy logic system including fuzzifying, inferencing, and defuzzifying. It further teaches that mandami inference includes membership functions and is a known fuzzy logic technique. Hence, it would have been obvious to modify the above combination to use a mandami inference system as it is merely the substitution of one known logic system for another.

Claims 3, 4, 18-22, 24, 37, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groth et al 5,690,103 in view of Lachejewski. The above combination uses a neural network to analyze the data. Groth uses a fuzzing logic system for the measurements. Lachejewski teaches in column 9, lines 4-47, a fuzzy logic system including fuzzifying, inferencing, and defuzzifying. It further teaches that mandami inference includes membership functions and is a known fuzzy logic technique. Hence, it would have been obvious to modify the above combination to use a mandami inference system as it is merely the substitution of one known logic system for another.

Applicant's arguments filed 2/2/2004 have been fully considered but they are deemed moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert L. Nasser whose telephone number is (703) 308-3251. The examiner can normally be reached on Mon-Fri, variable hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-3130. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RLN
April 29, 2004

Robert L. Nasser
Primary Examiner
Art Unit 3736



ROBERT L. NASSER
PRIMARY EXAMINER